Thomas K. Plunkett and Jonathan M. Lizee

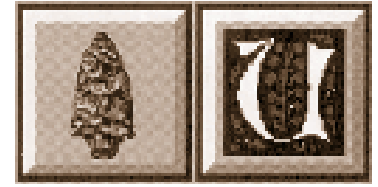# ArchNet and Archeological Cyberspace

In the 1970s and 1980s, archeologists adopted computers as storage devices for large data sets and as engines for the analysis of data. In the 1990s, archeologists have begun to use computers as electronic libraries or archives for data and multimedia presentations which are accessible worldwide via the Internet. One such resource known as ArchNet, developed at the University of Connecticut, provides links to global Internet resources of interest to archeologists. These resources consist of data, images, and reports including artifact type catalogs, site reports, and historic documents. Using ArchNet as a model, we will outline existing and potential applications for cultural resource management and historic preservation.

The main or "home" page of ArchNet.

Digging the Information Super Highway

In recent months, there has been considerable press given to the proposed National Information Infrastructure (NII), referred to by the popular media as the *electronic highway* or *information super highway.* Much of the publicity has been generated by poorly informed politicians and corporate developers, and conveyed by journalists who portray the transfer of information in seductive and appealing terms. The Internet or information super highway has, in fact, been in place since the early 1980s. In its present state, the Internet is literally a network of networks linking tens of thousands of institutions. There is no single computer that comprises the information highway and despite the popular conception there are no on-ramps or off-ramps. Worse yet, there are no road maps to the information super highway. ArchNet, in essence, provides a "map" of the Internet for archeologists and historic preservation professionals by creating links with existing and developing computer networks.

In the late 1980s, the European Center for Nuclear Research (CERN) developed a method for the exchange of multi-media resources over the Internet. This protocol is known as the World Wide Web (WWW). Using the Internet and the WWW protocol, computers around the globe can be used to transfer and share archeological data.

To access the ArchNet and the World Wide Web, users require a direct Internet connection and browsing software. The necessary browsing software is freely available from the National Center for SuperComputing Applications (NCSA) via http://w ww.ncsa.uiuc.edu. The address (URL) of ArchNet is: http://spirit.lib.uconn.edu/ArchNet/ArchNet.ht ml (case sensitive).
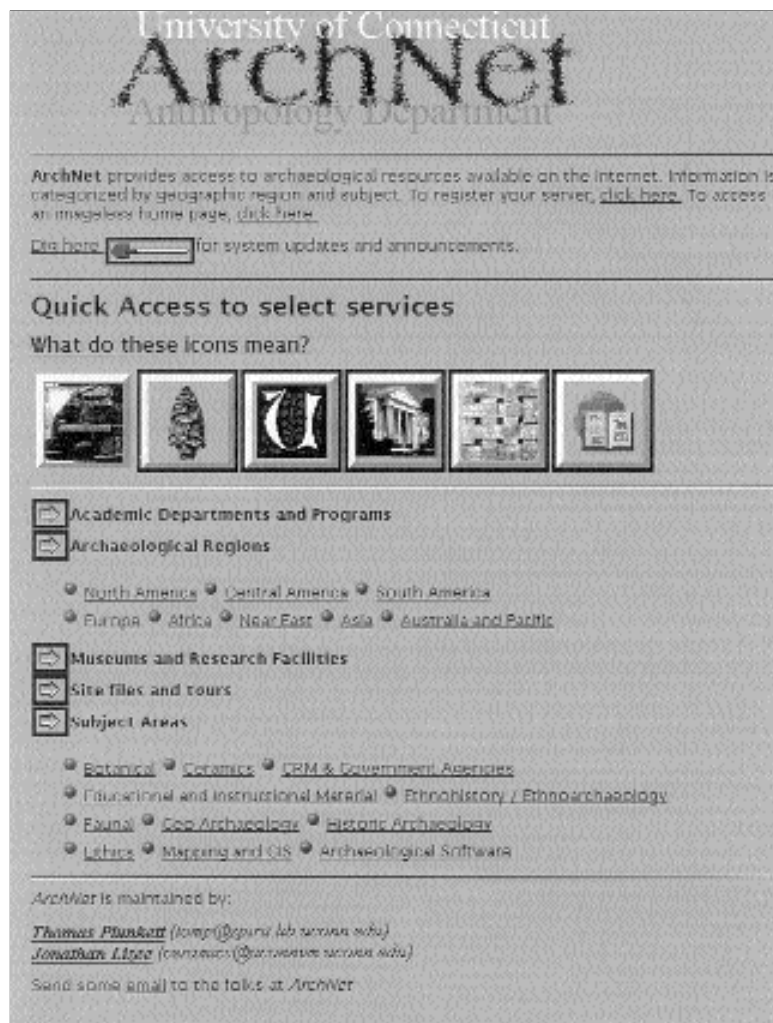
Using hypermedia, the WWW allows for the exchange of text, graphics, sound, full motion video, and large data sets across the Internet. The advantage of hypermedia is that it allows the user to interact with all elements (text, graphics, sound, etc.) of a "virtual document" thus expanding the potential applications (education, publishing, visual databases, etc.) while making it easier to use. All of ArchNet (and the Internet) can be navigated and browsed using only a mouse. This protocol has greatly increased the accessibility of the Internet by making it easier to use. The development and acceptance of the WWW as a standard for exchanging data has allowed for the creation of electronic or "virtual" libraries and museums which could not be constructed using traditional publishing methods. For example, the black and white illustrations presented in this article appear on ArchNet as high resolution color images which

First page of the type catalogue for Windsor Tradition ceramics. Clicking on any of the balls leads to detailed type descriptions and illustrations for the prehistoric ceramics of southern New England.

A rchNet is organized by geographic region and subject area. Current subject areas include: Botanical, Ceramic, Faunal, Educational, Ethnohistory, CRM and government Agencies, Lithics, mapping and GIS, and Software. Current offering for Historic Preservation and Cultural Resource Management include links to the National Register of Historic Places (via University of Maryland), the National Archaeological Database (University of Arkansas), and hypertext versions of the National Historic Preservation Act, national Environmental Protection Act, Native American Graves Protection and Repatriation Act, and others. In addition, summary documents describing preservation-related legislation for Connecticut and Massachusetts available. The Connecticut Historical Commission and ArchNet staff have also developed a searchable index to cultural resource management reports for Connecticut.

used in hypermedia presentations can be archived on a variety of computer platforms (Macintosh, DOS, Unix, and others). The material available on ArchNet is provided via Internet links to computers located around the world, yet clients using ArchNet do not need to know of a given document's physical location. This collaborative aspect of the WWW is one of its greater strengths.

High Tech Resources for Prim-Tech Studies

ArchNet provides access to hypermedia documents and "exhibits" using data generated at the University of Connecticut (UConn) and in collaboration with researchers at other institutions. ArchNet also offers "pointers" or links to all other sites on the Internet containing related information useful for archeologists and students of archeology. In a sense, ArchNet provides "one stop shopping" for archeologists who want to explore the Internet.

The graduate program in anthropology at UConn focuses on the prehistoric archeology of the northeastern United States. As part of the formal program, many of the students participate in field surveys and projects related to state- and federally- mandated cultural resource management studies. ArchNet allows data, artifact images, and reports from archeological research projects to be shared among students and researchers at UConn and beyond. The WWW protocol has been used to construct interactive artifact catalogues for prehistoric ceramics, projectile points, lithic tools, and histological thin sections of faunal specimens. In

can be viewed and/or downloaded by users worldwide. Color imaging for journals like *CRM* has traditionally been cost prohibitive. The WWW provides a foundation from which journals can be made interactive and globally available in a cost effective manner.
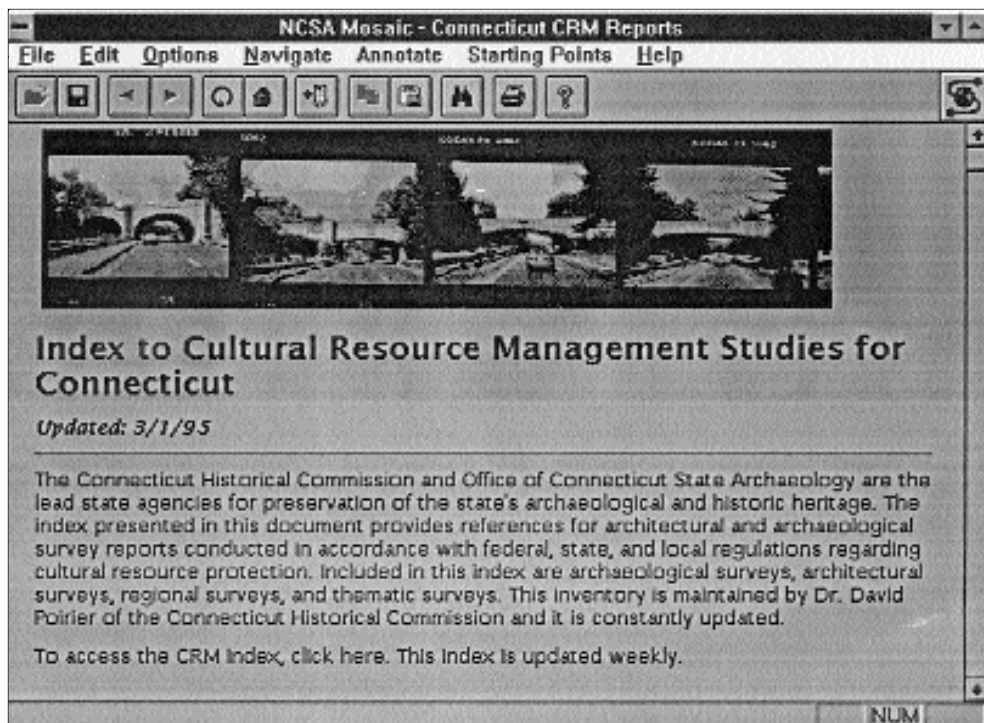
Users can access the WWW using browsers or client applications on a variety of desktop computer platforms. The current suite of browsing software includes Mosaic (developed by the National Center for Super Computing Applications at the University of Illinois, Urbana-Champagne), Cello, Netscape, and Lynx. The electronic documents

File Edit Options Navigate Annotate Starting Points Help

Index to Cultural Resource Management Studies for Connecticut

Updated: 3/1/95

The Connecticut Historical Commission and Office of Connecticut State Archaeology are the lead state agencies for preservation of the state's archaeological and historic heritage. The index presented in this document provides references for architectural and archaeological survey reports conducted in accordance with federal, state, and local regulations regarding cultural resource protection. Included in this index are archaeological surveys, architectural surveys, regional surveys, and thematic surveys. This inventory is maintained by Dr. David Poirier of the Connecticut Historical Commission and it is constantly updated.

To access the CRM index, click here. This index is updated weekly.

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ate course at UConn in Social Anthropology.

Archeological Cyberspace: Future Directions

ArchNet has evolved to become a vital resource to archeologists on the Internet. Since its inception in November 1993, the use of ArchNet has expanded from approximately 300 to over 5,000 accesses per day. The future holds exciting possibilities as we continue to develop new resources for cultural resource management, historic preservation, and archeology. Several interactive databases, allowing user controlled queries and input, are currently planned as future additions to ArchNet. These include Connecticut site files and National Register sites which will include photographs, artifact illustrations, and site descriptions which can be updated by the Office of the Connecticut State Archaeologist and the Connecticut Historical Commission (SHPO) from remote locations. We further plan to develop resources for education and use by professionals in historic preservation which will include type catalogues for historic and prehistoric artifacts and a hypertext culture history of southern New England.

This page introduces users to the Index to Connecticut CRM Reports. This document is updated daily as new sources of information become available.

addition to the available artifact catalogues and data sets, ArchNet has been developed as an instructional resource for northeastern prehistory, historic preservation, cultural resource management, and other courses in the Anthropology Department. Current educational resources include on-line versions of state, federal, and international cultural resource management policies and regulations, links to the National Archaeological Database, National Register of Historic Places, indexes of cultural resource management reports for Connecticut, and hypertext versions of site reports. All of these resources are useful in the instruction of archeology and the identification of archeological materials. ArchNet also provided the first implementation of an Internet resource used in teaching an undergradu-

In developing ArchNet, we have found that the WWW is cost effective and easily expandable. At the same time, sharing of data and collaboration is facilitated by allowing "owners" of disparate data resources to be integrated within a single application framework. After a year of system development, reports from users around the world indicate that the WWW provides a virtually limitless environment for the exchange and development of innovative resources for historic preservation.

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What's Out there?

A number of universities and United States government agencies are making material available on the World Wide Web. Some of the current government sources include the United States Geological Survey, the National Wetlands Inventory, Soil Conservation Service, National Oceanographic and Atmospheric Association, National Park Service/Department of the Interior, and the National Science Foundation. All of these agencies are accessible through ArchNet.